AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A ~~gamut mapping~~luminance dynamic range system, comprising:

an image processing module for transforming an input image into a luminance component L_{in} and chrominance components, C_1 and C_2;

a spatial low pass filter, responsive to L_{in} for outputting a filtered luminance component L_f, wherein L_f is a function only of L_{in}; and

a luminance compression module responsive to L_f and L_{in} for performing luminance compression on the input component L_{in} ~~outputting~~ to output a compressed luminance signal L_{out} that is within an achievable luminance range of an output device; wherein the luminance compression module combines two compression functions $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ via a blending function $\alpha(L_f)$; ~~and~~ wherein $L_{comp1}(L_{in})$, $L_{comp2}(L_{in})$ and $\alpha(L_f)$ are all 1-dimensional functions only of L_{in}; and wherein $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ are both designed to map the luminance dynamic range of an input image to the more limited dynamic range of an output device.

2. (Canceled).

3. (Previously Amended) The system of claim 1, wherein L_{out} is computed according to the relationship $L_{out} = \alpha(L_f)\, Lcomp1(L_{in}) + (1 - \alpha(L_f))\, Lcomp2(L_{in})$.

4. (Previously Amended) The system of claim 1, wherein $\alpha(L_f)$ is a piecewise linear function, determined by two breakpoints, B_1 and B_2.

5. (Previously Amended) The system of Claim 1, wherein function L_{comp1}

is optimized for preserving overall image contrast.

6. (Previously Amended) The system of Claim 1, wherein function L_{comp2} is optimized for preserving shadow detail.

7. (Original) The system of claim 4, wherein:

$\alpha(L_f) = 0$ for values of L_f between 0 and B_1;

$\alpha(L_f)$ increases linearly from 0 to 1 for values of L_f from B_1 to B_2; and

$\alpha(L_f) = 1$ for values of L_f between B_2 and L_{max},

where L_{max} is a maximum luminance achievable by the output device.

8. (Canceled).

9. (Original) The system of claim 1, wherein the low pass filter comprises a constant weight filter.

10. (Original) The system of claim 1, wherein the image is down-sampled prior to filtering and upsampled and interpolated after filtering.

11. (Original) The system of claim 1, further comprising a color correction module for transforming L_{out}, C_1 and C_2 to CMYK for printing.

12. (Currently Amended) A method for ~~gamut~~ luminance dynamic range mapping, comprising:

transforming an input image into a luminance component L_{in} and chrominance components, C_1 and C_2;

spatially low pass filtering L_{in} into a filtered luminance component L_f, wherein L_f is a function only of L_{in}; and

processing L_f and L_{in} through a luminance compression module to obtain a

compressed luminance signal L_{out} that is within an achievable luminance range of an output device; wherein the processing step comprises combining two compression functions $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ via a blending function $\alpha(L_f)$;~~, and~~ wherein $L_{comp1}(L_{in})$, $L_{comp2}(L_{in})$ and $\alpha(L_f)$ are all 1-dimensional functions only of L_{in}; and wherein $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ are both designed to map the luminance dynamic range of an input image to the more limited dynamic range of an output device.

13. (Canceled).

14. (Previously Amended) The method of claim 12, wherein $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ are combined according to the relationship $L_{out} = \alpha(L_f)\ Lcomp1(L_{in}) + (1 - \alpha(L_f))\ Lcomp2(L_{in})$.

15. (Previously Amended) The method of claim 12, wherein $\alpha(L_f)$ is a piecewise linear function, determined by two breakpoints, B_1 and B_2.

16. (Previously Amended) The method of Claim 12, wherein function L_{comp1} is optimized for preserving overall image contrast.

17. (Previously Amended) The method of Claim 12, wherein function L_{comp2} is optimized for preserving shadow detail.

18. (Original) The method of claim 15, wherein:

$\alpha(L_f) = 0$ for values of L_f between 0 and B_1;

$\alpha(L_f)$ increases linearly from 0 to 1 for values of L_f from B_1 to B_2; and

$\alpha(L_f) = 1$ for values of L_f between B_2 and L_{max},

where L_{max} is a maximum luminance achievable by the output device.

19. (Canceled).

20. (Original) The method of claim 12, wherein the spatial low pass filtering comprises applying a constant weight filter.

21. (Original) The method of claim 12, further comprising down-sampling the input image prior to filtering and upsampling and interpolating the input image after filtering.

22. (Original) The method of claim 12, further comprising applying a color correction for transforming L_{out}, C_1 and C_2 to CMYK for printing.